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| **Favourite colour tally chart** |
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| Working in teams to produce a tally chart of favourite colours |
| **Subject(s):** Mathematics **Approx time:** 40 – 60 minutes |  | **Key words / Topics:** * Colours
* Data
* Recording data
* Statistics
* Tally chart
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| **Suggested Learning Outcomes**  |  |  |
| * To construct a tally chart to record favourite colours in a class
* To analyse information presented in a tally chart.
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| **Introduction** |  |  |
| This is one of a set of resources developed to support the teaching of the primary national curriculum. They are designed to support the delivery of key topics within maths and science. This resource focusses on producing a tally chart to record and analyse data about favourite colours.Tally charts are a really quick and easy way of recording data. You will learn how to produce one and how it can be used to find out the favourite and least favourite colours in your class! |
| **Purpose of this activity**In this activity learners will produce a tally chart of favourite colours in a class. They will split into groups and go round the other learners in the class, recording their favourite colours in their chart. They will then add up the totals and discuss their results. This activity could be used as a main activity to develop knowledge and understanding of methods of recording and displaying data, or as part of a wider scheme of learning focussing on statistics. It could also be used as a starting point for learning based around the use of colour in D&T. |
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| **Activity** |  | **Teacher notes** |
| **Introduction (5-10 minutes)**Teacher to explain that learners are going to get into groups, find out the favourite colours of each member of the class and put this information into a tally chart. Using the teacher presentation, teacher to introduce what is meant by a tally chart and why they are used:* A tally chart is a quick and easy way of writing down and showing data.
* Tally ‘marks’ are used instead of numbers or words. The totals are then added up.
* This makes them very easy and fast to produce.

**Collecting the data (30-40 minutes)**Teacher to give instructions to learners for the activity using the teacher presentation:* Learners to get into groups of three.
* Groups to go round to each other group and ask each person what their favourite colour is.
* Groups to record what they tell them in their tally charts.
* Groups to add up the totals and write in the correct column.

Learners to get into their groups and compile their tally charts. Coloured pencils could be used to shade in each colour on the chart and add more visual interest.**Discussing the data (5-10 minutes)**Teacher to discuss the findings with the class. * Which were the most and least favourite colours in the class?
* What other interesting things could be found out about the class and put into tally charts?
* What else could be done with the data collected (e.g. create pictograms, bar charts etc)?
 |  | **Why we use tally charts**The slide in the teacher presentation can be used to introduce learners to what is meant by a tally chart and explain why they are used. Teacher could draw an example on the whiteboard to illustrate e.g. using hair colour, hand size etc.**Collecting the data**Learners could be placed into groups of three or four. The teacher may wish to create a set order in which the learners go round to each other group, or only allow one group to go round at a time (whilst other learners are completing a separate activity). Groups could discuss and rank their responses in terms of most to least popular colour in the class. Teacher should recap how to fill in the numbers of each row of the tally chart e.g. writing four lines and then crossing through them for each group of five recorded.**Tally chart handout/template**This slide on the teacher presentation could be printed and used as a handout for lower ability learners to record a tally and total of the favourite colours of each member of the class, or as an example to show how to complete a tally chart. Higher ability leaners could create their own template to use. If any colour does not fall into one of the given categories it can be classified under ‘other’, or the sheet could be edited to include additional colours. Once the tally has been completed for each colour, the total number of each should be added up and recorded under the ‘total’ column. Go through how to complete this in advance of learners doing so, so they are clear what they should do. |
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| **Differentiation** |  |  |
| **Basic** |  | **Extension** |
| Provide learners with a template for the tally chart (more able learners can produce their own).Provide learners with examples of previously completed tally charts for reference. |  | Produce a pictogram of the favourite colour data collected.Produce a bar chart and/or pie chart of the data collected.Repeat the exercise for different data sets, such as hand size, hair colour, shoe size etc. |
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| **Resources** |  | **Required files** icon-docicon-pdficon-ppt |
| * Pens and/or pencils for completing the tally charts
* Coloured pencils
 |  | icon-ppt Favourite colour tally chart presentationicon-pdf Favourite colour tally chart handout – Tally chart template |
| **Additional websites** |  |  |
| * **Bitesize – Data organisation and tallying:** Class clip video introducing the use of tallying. <https://www.bbc.co.uk/bitesize/clips/z7r9jxs>
* **The School Run – Tally charts:** Information for parents, teachers and pupils about the purpose and use of tally charts. <https://www.theschoolrun.com/what-is-a-tally-chart>
* **TES Resources - Introduction to tally charts:** Free downloadable teaching resource for use in the classroom when covering the use of tally charts. <https://www.tes.com/teaching-resource/introducing-tally-charts-presentation-and-activity-6430233>
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| **Related activities (to build a full lesson)** |  |  |
| **Starters** (Options) * Look at/explore examples of tally charts for different sets of data.
* Discuss the advantages and disadvantages of using tally charts to record data.
* Watch the BBC Bitesize video clip Data organisation and tallying, which introduces the use of tallying. <https://www.bbc.co.uk/bitesize/clips/z7r9jxs>
 | **Extension** (Options)* Produce a pictogram of the favourite colour data collected.
* Produce a bar chart and/or pie chart of the data collected. ICT software could be used for this.
* Repeat the exercise for different data sets, such as hand size, hair colour, shoe size etc.

**Plenary*** Place the results in order and discuss which is the favourite and least favourite colour in the class.
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| **The Engineering Context** film |
| * Transport engineers use tally charts to record how many vehicles, and of what types, pass through road junctions or along busy roads. This helps them to plan the timings of traffic lights and identify roads where changes are needed.
* Engineers need an understanding of colour when producing solutions that are aesthetically pleasing for clients. For example, colours used in the production of cars.
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| **Curriculum links** |
| **England: National Curriculum**MathematicsKS1 Year 2 Statistics:* interpret and construct simple pictograms, tally charts, block diagrams and simple tables
* ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.
 | **Northern Ireland Curriculum**KS1 - Mathematics and NumeracyHandling data:* collect data, record and present it using real objects, drawings, tables, mapping diagrams, simple graphs and ICT software
* discuss and interpret the data.
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| **Scotland: Curriculum for Excellence**Numeracy and MathematicsInformation handling:* MNU 1-20a
* MNU 1-20b
* MNU 1-21a
 | **Wales: National Curriculum** MathematicsKS2 - Using data skills:* represent data using lists, tally charts, tables and diagrams.
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| **Assessment opportunities** |
| * Formal teacher assessment of written information presented on tally charts.
* Questioning recap in plenary of how and why tally charts are used.
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